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ABSTRACT

Focusing on implications for teachers, this document reviews significant research and the current status of career education. The information is divided into eight sections. An introductory section discusses the criticisms of the education system which formed the basis for the career education movement. The next five sections contain brief summaries of the following concerns: definitions of career education; goals and expectations of career education; major criticisms of the movement; problems in evaluating career education; and major research findings. (The research findings in this report emphasize an evaluation of the effectiveness of the career education curriculum in bringing about achievement within the basic academic skills domain.) In the last two sections the author summarizes his review by offering conclusions and implications for the future development of career education. (BM)

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What Research Says to the Teacher

Career Education

by John H. Wilson

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INTRODUCTION

Career education, a relatively new phenomenon on the education scene, continues to rather successfully weather the storms of challenge associated with youthful striving while searching for a definition which will assure a meaningful contribution to the greater educational process. The true parentage of the concept/movement is debated as the list of characteristics attributed to the more comprehensive definition of career education grows and various individuals in the history of educational thought are credited with its conception. These arguments become less important as the tempestuous child in career education appears to be maturing nicely—at least to the level of adolescence, which is a stage critical in human growth regarding the potential for becoming a more or less contributing member of the social order. Now is certainly a critical time to assess career education's achievements and potential.

Career education is one of several responses to an increasingly vocal array of formal education critics. Along with proponents of alternative schools, open classrooms, affective education, back to basics, and other visions of means for improvement, the career educationists build a substantial part of their rationale from common criticisms of American education. Reprovals of learning conditions which allegedly typify early childhood through postsecondary school classrooms include the following:

1. Too many persons leaving our educational system are deficient in the basic academic skills required for adaptability in today's rapidly changing society.
2. Too many students fail to see meaningful relationships between what they are being asked to learn in school and what they will do when they leave the educational system. This is true of both those who remain to graduate and those who drop out of the educational system.
3. American education, as currently structured, best meets the educational needs of that minority of persons who will someday become college graduates. It fails to place equal emphasis on meeting the educational needs of that vast majority of students who will never be college graduates.
4. American education has not kept pace with the rapidity of change in the postindustrial occupational society. As a result, when

worker qualifications are compared with job requirements, we find overeducated and undereducated workers are present in large numbers. Both the boredom of the overeducated worker and the frustration of the undereducated worker have contributed to growing worker alienation in the total occupational society.

5. Too many persons leave our educational system at both the secondary and collegiate levels unequipped with the vocational skills, the self-understanding and career decision-making skills, or the work attitudes that are essential for making a successful transition from school to work.
6. The growing need for and presence of women in the work force has not been reflected adequately in either the educational or the career options typically pictured for girls enrolled in our educational system.
7. The growing needs for continuing and recurrent education of adults are not being met adequately by our current systems of public education.
8. Insufficient attention has been given to learning opportunities which exist outside the structure of formal education and are increasingly needed by both youth and adults in our society.
9. The general public, including parents and the business-industry-labor community, has not been given an adequate role in formulation of educational policy.
10. American education, as currently structured, does not adequately meet the needs of minority or economically disadvantaged persons in our society.
11. Post high school education has given insufficient emphasis to educational programs at the sub-baccalaureate degree level.[1]

The criticisms cited here indirectly explain the focus of career education efforts, that is, to rectify many of the circumstances identified above through constructive educational changes.

DEFINING CAREER EDUCATION

The one person most readily credited for coining the term "career education" is Sidney P. Marland, Jr., then the U. S. Commissioner of Education, 1971. He also admonished those who were demanding a

definition of the concept to be patient, and intentionally delayed the burden likely to be created by hasty labeling. Marland insisted that a premature definition at the federal level would discourage interest in the generic idea of career education for local- and state-level educators, the business-labor-industry community, school patrons, and government agencies. In the following paragraph, he refers to career education:

> [It is] . . . designed to give every youngster a genuine choice, as well as the intellectual and occupational skills necessary to back it up. Career education is not merely a substitute for "vocational education," or "general education," or "college-preparatory education." Rather, it is a blending of all three into an entirely new curriculum. The fundamental concept of career education is that all educational experiences—curriculum, instruction, and counseling—should be geared to preparation for economic independence, personal fulfillment, and an appreciation for the dignity of work.[2]

Despite advice to allow the concept of career education some time for seasoning and experimentation, tentative programs were initiated and a like number of definitions for career education appeared. Efforts of different state departments of education produced this sampling of definitions:

1. Career education is a concept through which all teachers, in all curriculum areas, assist individuals at each educational level to make continuous progress in acquiring the abilities necessary to manage the career aspects of their lives in ways that are both personally satisfying and productive. (Georgia)
2. Career education is a systematic, comprehensive, and continual learning process from kindergarten through post high school designed to assist each individual to assess rewarding career choices. (Colorado)
3. Career education is all educational activities and experiences through which individuals learn about themselves in relationship to lifestyles and to the world of work. (Iowa)
4. Career education is the system which delivers the skills and knowledge people need to explore, understand, and perform their various life roles—as student, worker, family member, and citizen. (Michigan)

5. Career education is an educational process where people gain knowledge, attitudes, awareness, and skills necessary for success in the world of work. (Nevada)
6. Career education is a concept designed to provide students with necessary information and developmental experiences to prepare them for living and working in society. (Ohio)
7. Career education is an educational process orienting all education and training toward enabling an individual to be skillful with his or her life. (Kansas)

Collectively, the National Association of State Directors of Vocational Education viewed career education as the following:

> A viable system of learning experiences which will assist all youth to acquire useful information about: the occupational structure of the economy, the alternatives of career choice, the obligations of involvement in the total work force, the intelligent determination of personal capabilities and aspirations, the requisites for all occupations, and the opportunities to prepare for gainful and useful employment.[3]

The fast growing number of local and statewide programs chose emphases which were unique and identified activities and directions which complemented only their own adopted definitions. However:

> . . . virtually every program included the phases of awareness, exploration, and preparation, and almost every definition included the following:
>
> a. Career education is concerned with education for work, both paid and unpaid.
> b. Awareness and exploration of self is as important as and must be related to awareness and exploration of the world of work.
> c. A major goal is to increase individual career options, and to make work possible, meaningful and satisfying for everyone.
> d. Because attitudes are formed early in life, career education should begin with the first year of school (or earlier, in the home), and because the nature of work changes, career education must continue throughout life.
> e. The program must involve the entire community and all parts of the school program.[4]

The culmination of effort at the federal level to provide a generic definition of career education depends upon the acceptance of a generously comprehensive definition of *work:*

> Work is conscious effort, other than that involved in activities whose primary purpose is either coping or relaxation, aimed at producing benefits for oneself and/or for oneself and others.[5]

In this sense work is cited as a common element in the experiences of all humankind and can be particularly useful to anyone searching for a reason to engage in formal learning. Few can quarrel with the inevitability of a society's need to produce and with an individual's sense of satisfaction gained through achievement and accomplishments, so continued the rationale. Preparation for work will represent one of many goals for education while work itself refuses the limitations of a strict economic definition and "reaches beyond to the broader aspects of productivity in one's total life style—including leisure time."[6]

Therefore, the U. S. Office of Career Education has concluded:

> In a generic sense, the definition of "career education" must obviously be derived from definitions of the words "career" and "education." In seeking a generic definition for career education, these words are defined as follows:
>
> "Career" is the totality of work one does in his or her lifetime.
>
> "Education" is the totality of experiences through which one learns.
>
> Based on these two definitions, "career education" is defined as follows:
>
> "Career education" is the totality of experiences through which one learns about and prepares to engage in work as part of her or his way of living.
>
> "Career," as defined here, is a developmental concept beginning in the very early years and continuing well into the retirement years. "Education," as defined here, obviously includes more than the formal educational system. Thus, this generic definition of career education is purposely intended to be of a very broad and encompassing nature. At the same time, it is intended to be considerably less than all of life or one's reasons for living.[7]

GOALS AND EXPECTATIONS OF CAREER EDUCATION

Consideration of the scope and potential of career education has included a full range of claims, every imaginable educational goal from increased interest in science experiments at the fourth-grade level to massive reform of the entire American education enterprise. A growing consensus of career educationists identify with reasonably modest aspirations for the movement, perhaps most clearly articulated through a very recently revised set of ten "learner outcomes for career education."[8] They follow below:

Career education seeks to produce individuals who, when they leave school (at any age or at any level), are:

1. Competent in the basic academic skills required for adaptability in our rapidly changing society.
2. Equipped with good work habits.
3. Equipped with a personally meaningful set of work values that foster in them a desire to work.
4. Equipped with career decision-making skills, job-hunting skills, and job-getting skills.
5. Equipped with job-specific occupational skills and interpersonal skills at a level that will allow them to gain entry into and attain a degree of success in the occupational society.
6. Equipped with a degree of self-understanding and understanding of educational-vocational opportunities sufficient for making sound career decisions.
7. Aware of means available to them for continuing and recurrent education.
8. Either placed or actively seeking placement in a paid occupation, in further education, or in a vocation consistent with their current career decisions.
9. Actively seeking to find meaning and meaningfulness through work in productive use of leisure time.
10. Aware of means available to themselves for changing career options—of societal and personal constraints impinging on career alternatives.

There is evidence that a very diligent study of the career education movement, involving a carefully selected representation of qualified persons, has produced and presented these ten learner outcomes as suitable for use in the product evaluation of career education. Synthesis literature reminds educators of the following:

> . . . these learner outcome goals are intended to apply to persons leaving the formal educational *system* for the world of work. They are not intended to be applicable whenever the person leaves a particular school. . . . the applicability of these learner outcome goals will vary from individual to individual as well as from one level of education to another. This is consistent with the developmental nature, and the basic assumption of individual differences, inherent in the concept of career education.[9]

In addition to the basic agreement regarding individual learner objectives, the Office of Career Education (within the Office of Education and the U.S. Department of Health, Education, and Welfare) has compiled a rather thoughtful list of basic educational policy changes which are advocated by career education. The suggestions are included in this report to clarify further the total thrust of the career education movement and to provide additional context concerning problems associated with the evaluation of career education. The ultimate success of the goals valued by any segment of education is directly influenced by the conditions within the whole of American education. The fourteen educational changes below have three basic suppositions: (1) while initial implementation of career education programs will be relatively inexpensive, total educational reform is going to be expensive, (2) a substantial portion of the additional funds required could be found in remedial and alternative educational systems, and (3) the days of educational isolationism are past.[10] The following are the educational changes:

1. Substantial increases in the quantity, quality, and variety of vocational education offerings at the secondary school level and of occupational education offerings at the postsecondary school level.
2. Increases in the number and variety of educational course options available to students with a de-emphasis on the presence of clearly differentiated college preparatory, general education, and vocational education curriculums at the secondary school level.

3. The installation of performance evaluation, as an alternative to the strict time requirements imposed by the traditional Carnegie unit, as a means of assessing and certifying educational accomplishment.
4. The installation of systems for granting educational credit for learning that takes place outside the walls of the school.
5. Increasing use of noncertificated personnel from the business-industry-labor community as educational resource persons in the educational system's total instructional program.
6. The creation of an open-entry, open-exit educational system that allows students to combine schooling with work in ways that fit their needs and educational motivations.
7. Substantial increases in programs of adult and recurrent education as a responsibility of the public school educational system.
8. Creation of the year-round public school system that provides multiple points during any 12-month period in which a student will leave the educational system.
9. Major overhaul of teacher education programs and graduate programs in education aimed at incorporating the career education concepts, skills, and methodologies.
10. Substantial increases in the career guidance, counseling, placement, and follow-up functions as parts of American education.
11. Substantial increases in program and schedule flexibility that allow classroom teachers, at all levels greater autonomy and freedom to choose educational strategies and devise methods and materials they determine to be effective in increasing pupil achievement.
12. Increased utilization of educational technology for gathering, processing, and disseminating knowledge required in the teaching-learning process.
13. Increased participation by students, teachers, parents, and members of the business-industry-labor community in educational policy making.
14. Increased participation by formal educational institutions in comprehensive community educational and human services efforts.[11]

While the successful achievement of goals valued by career education is not dependent upon the extensive modifications of American education

cited above, a review of research findings which reflects career education's mission would be remiss if it omitted such significant suggestions.

CRITICISM

The career education effort is not without criticism, some moderate and cautionary, some caustic and cynical; a general review of the critical analysis reflects professional concern for the movement's potential. A recent issue of the one professional journal designed to "provide a forum for professional discussions on the subject of career education, the *Journal of Career Education*,"[12] was devoted entirely to a critical appraisal. The journal noted, "There are articles in this issue which provide an analytical criticism of career education that have never been published before in the literature of career education."[13] Selected conclusions and observations from this source are representative of the current status of criticism.

Expressing a tentativeness about becoming committed to a career education curriculum, Morris compares the approach to (1) Karl Marx's dialectical materialism and its relation to education, (2) the American version of the Puritan work ethic, and (3) an existentialist perspective. After puzzling the merit of bringing schooling and life into closer touch with one another, Morris concludes that "Career education is an exciting new way of probing that connection."[14] Newsome's analysis is less speculative as he pronounces, "It seems rather naive to believe that new programs in education, will substantially change the pattern of public education. It seems even more naive to believe that such programs will cure social and educational ills."[15] While considering the recent history of the U. S. Office of Education and its political nature, G. Smith concludes that career education is little more than a new label for a resurrected life adjustment education.[16] P. L. Smith is sensitive to the particular applications of career education thrusts, arguing that students being prepared for the world of work may be manipulated in a manner counter-productive to positive social growth.[17]

According to Greene:

> We must be on guard against the sanguine acquiescence that discourages critical thought. And this is why it is so important to

introduce into Career Education programs the kinds of materials that make self-expression possible . . . Without such questioning, Career Education will create compliant, finally desperate workers, unaccustomed to pondering their ways of being in the world.[18]

Greene portrays the cautious, waiting attitude of the more humanistic critic who wants career educationists to attend to the business of making their curricula meaningful to young learners in the process of becoming human beings, and she is not convinced this task is addressed. Meanwhile, Neff takes issue with the very ambitious persons within the career education community who propose that career preparation should be the primary focus of all schooling, summarizing with the following:

To the question, "Does career education have a proper place in the total spectrum of educational concerns?" the answer is an emphatic yes. To the question, "Does career education deserve a position of dominance under which all other educational objectives are to be subsumed?" the answer is an equally emphatic no. Education can have no single, monolithic aim if such would subvert a full and free realization of other, equally worthy, aims.[19]

Less charitable criticisms are leveled at career education by Grubb and Lazerson, who argue:

First, . . . that career education is basically a reconstitution of vocational education, an earlier reform with a similar purpose, and that career education is likely to replicate vocational education's failures. Second . . . that the assumptions career educators make about education, work, and the labor market are erroneous, and [third] that the ills career education proposes to solve—unemployment, underemployment, and worker dissatisfaction—are intrinsic to our economic system, and consequently that career education is a hollow, if not an individious, reform.[20]

This lengthy attack on the movement precipitated an equally lengthy reply from the Office of Career Education, a response which entreated other critics to "pay some attention to our basic conceptual statements."[21]

In summary, much of the criticism of career education is directed at the movement's vagueness, i.e. the scope, goals, proper emphasis at various levels of schooling, infusion versus separate subject, involvement of

homes, business, labor, and industry. Critics have consistently noted the very impressive magnitude of growth and acceptance which has been earned by career education in only six years, but these critics remind leaders in the effort that accountability time is at hand. The visibility won during career education's early growth will make the continuing development vulnerable to comprehensive evaluation by the watchful community of education critics.

PROBLEMS IN EVALUATING CAREER EDUCATION

It seems fair to asume that the evaluation process for each significant phenomenon in education is fraught with unique evaluation difficulties. The assessment of career education is no exception to this assumption. While comprehensive and systematic evaluation efforts are being conducted in all geographic areas and at representative levels of instruction, Hoyt admits that,

> Problems associated with evaluation of career education are complicated by the developmental nature of the career education concept, by the newness of the concept, and its introduction in the midst of a strong call for accountability in all of education, and most of all, by the fact that career education seeks to remain a concept to be infused into all existing educational programs rather than a new and separate program specialty in education.[22]

Briefly, selected concerns regarding the assessment of career education are noted here as context for the growing body of evaluation information which follows.

Raymond and Raymond have discussed several common obstacles encountered in evaluation; some are unique to career education and others are millstones to most practitioners:[23]

1. The lack of program definition. . . . only a few locations on the national scene having anything that resembles a well defined comprehensive program. Inadequate definition with resultant weak controls can contribute to studies which produce little or no significant differences.
2. . . . a goodly portion of the (career education) objectives that many programs include would be achieved by the students whether or not

they were active participants in a career education program. The identification of appropriate program objectives is mandatory.

3. The test buying/developing dilemma; securing or constructing tests which satisfy the criteria: depth of content; comprehensiveness of career development concepts and careers covered; congruency with project philosophy; bias such as socioeconomic, sex occupation stereotypes, educational levels of workers, ethnic, and changing social structure; level of cognitive domain; controversial items with respect of community political base; reading level; diagnostic and summative purposes; pool of items of self-selection; and, finally, and perhaps most importantly, compatability with desired student outcomes.
4. The tendency to identify one's career education program as being concerned primarily with self-awareness and attitudinal factors, thus, difficult to measure conventionally.
5. Growing resistance to the extensive use of evaluation devices in the classroom.
6. Accurately discerning whether educational outcomes were indeed a function of program activities or the function of other intervening variables.
7. The difficulty associated with designing evaluation studies which identify those causal factors to which significant student growth can be attributed.
8. The temptation to accentuate positive results and ignore the negative findings, especially when funding is at stake.

According to Dataa:

> Evaluating whether an idea works when it's been tried is relatively infrequent in career education evaluation. The ability to distinguish clearly the impact of well-implemented programs from the results of those where the idea has not really been tried may be pivotal to public judgment about the cumulative value of career education.[24]

McLaughlin points to the magnitude of educational changes envisioned by the career education movement:

> Given the lack of "fit" between traditional evaluation paradigms and local reality, what is needed for career education then, is not just better measures but an entirely new paradigm. The problem with most evaluation models presently in use is not simply one of inadequate or

inappropriate measurement, the problem has to do with the logic of the research itself. Unless an evaluation paradigm is conceptualized so as to accurately reflect the process of change in the local setting, evaluation cannot be expected to provide valid data that could inform program and policy decisions.[25]

After presenting evidence of career education's remarkable growth since 1971 Newell remarks, "It is fair to say, however, that career education has, to date, been accepted more on faith than on the basis of demonstrated achievement."[26] Although slightly similiar to the other difficulties regarding evaluation cited here, Newell's synthesis of the critical problems facing the evaluation of career education is a representative conclusion:[27]

1. Traditional evaluation designs, techniques, and instruments do not appear to be sufficiently sensitive to be useful in most natural settings and to detect changes in important career education variables.
2. It is not sufficient to look only at program resources, treatments, and outcomes if we want to fully understand when and how career education works. We must also analyze the various change strategies used, the organizational climate in which change is attempted, and the interactions between the subsystems of the institution(s) attempting to implement career education.
3. The public, in general, including legislators and top bureaucratic policymakers, does not understand the complexities involved in evaluation. We have simply not communicated that it is a difficult venture that will take a long time, considerable funding, and many mistakes before techniques are perfected and conclusive results can be shown.
4. Until we can impress upon people at all levels of education and policymaking that evaluation is a management tool for improving programs as well as a consideration in funding decisions and that it must receive adequate time and funding to be done well, we are bound to continue the practice of being asked to deliver too much too fast too late.
5. Perhaps the most difficult problem for career education evaluation lies in the fact that it has been described to many people as a way of improving basic skills. Career education is only one of many variables (some perhaps unknown) affecting academic achieve-

ment. Until we have a better understanding of how to implement career education to maximize its effects on basic skills attainment and until we know how it interacts with other critical variables, it may be necessary to tone down the immediacy of our promises.

The career education evaluation process includes obstacles, concerns, and problems, but reactions to the difficulties are consistently positive and hopeful throughout the literature.

RESEARCH FINDINGS

The research findings in this report emphasize an evaluation of the effectiveness experienced by the career education curriculum in bringing about achievement within the basic academic skills domains. While other educationally sound claims are made for the entire career education movement, the unique problems associated with these more complicated goals will take time to solve. A comprehensive evaluation effort is underway and significant findings are forthcoming. In the meantime there is a substantial body of data available for review regarding the anticipated contribution which career education may express regarding basic skills development. Additionally, while several goals cited by career educationists are heavily dependent upon concomitant modifications of the greater American education process (See the previous chapter "Goals and Expectations of Career Education"), any change in U.S.education will conclude that basic academic skills competency is foremost in importance.

For much of the remainder of this report there will be a continuing reference to one particular description of findings, a document sponsored by the U. S. Office of Education, Office of Career Education, and authored by Dr. Robert D. Bhaerman.[28] This writer is greatly indebted to the Office of Career Education and Bhaerman for sharing this most recent descriptive analysis of the research about basic academic achievement and career education.

Bhaerman[29] reviews selected findings in relation to academic achievement which were preliminary to his analysis, including Bryant's conclusions after a review of twenty career education-related studies that:

> Indications are that the evaluations of many 1975-76 programs may contribute substantially to the knowledge now available concerning the

interrelationship of career education and academic achievement. Soft data have indicated that positive changes in the self concepts and work habits of some students have taken place. Follow-up studies, indeed, may net more hard data that career education can aid the development of students' acquisition of the fundamental skills—reading, writing, and arithmetic.[30]

Worthington[31] and the Development Associates[32] agree that there are few formal studies which investigate the relationship between career education and academic skills development. Examples of more informal reporting include results gleaned through two FY 1975 projects out of the Office of Career Education, edited by Bhaerman:[33]

> Evidence in relation to Goal # 1 (academic achievement) is found in a report submitted by the Indiana State Department of Public Instruction (USOE Grant No. G00750-2396). The document reports, among other activities, a program developed by the Lakeland School Corporation. The program was provided to approximately 40 eleventh graders who exhibited hard core reading problems. All of them had histories of repeated failures and the expected concurrent negative attitudes toward anything "academic." A teacher and an aide were able to achieve dramatic reversals in attitudes and skill increases by using a variety of career-related approaches, guest speakers and information filmstrips. The results were so encouraging that the school board maintained the program as a continuing activity supported entirely with local funds.[34]

In Rockford, Illinois, (USOE Grant No. G007502397) teacher interviews were conducted with questions on listening, speaking, reading and writing skills, and on arithmetic operations, problem solving and measurements skills. The design included a control group of teachers not involved with CE and an experimental group who infused CE only in language arts and measurement in math. Almost all cases of teacher-observed increases in communication skills occurred in classrooms with high infusion. Teachers reported that integration of CE concepts had a definite impact on achievement in communication skills, especially writing. Marked improvements were noted in form, content, organization, and clarity of written material and vocabulary. The greatest improvement was found in poor or remedial students. Improvement also was noted in reading habits and interests, attributed to new interest sparked by career exploration. Little improvement

difference was found between experimental and control groups in math skills, except in the area of measurement, which was the only math skill in which CE activities were integrated.[35]

Continuing, the Bhaerman report includes several characteristics which are noteworthy.[36] The exact language of each research was used, the review was written for laypersons, and primary resources were used in all cases--a total of 38 studies from the early to mid-1970's. Information is provided to allow the readers to see for themselves the dimensions of each project, the focus on the data was narrowed to basic skills, and the limitations of the analysis were recognized. Fully understanding the analysis is enhanced when the following nine considerations are explained:[37]

1. *Subject matter focus.* The majority of the studies focused on mathematics (28 studies) and/or reading (23). However, data also were reported on language arts (14)—including spelling, vocabulary, English, and oral and written communication, studies, skills (4), social studies (3), and science (2). The subject matter focus of several studies (6) were unspecified.
2. *Project locations.* The studies were conducted nationwide: in the Northeast states (17 studies), Southern states (8), Middlewestern states (9), and Far Western states (4). However, some of the studies of the Research and Development Labs covered several sites, e.g., one of the studies of the Northwest Regional Educational Laboratory had pilot sites in Oregon, Washington, Montana, and Alaska and one of the studies of the Appalachia Educational Laboratory had implementation sites in Georgia, Louisiana, Iowa, and New York.
3. *Research designs.* Procedures varied greatly. The use of pre-tests and post-tests were indicated in the majority of the studies (25); the use of control groups were indicated to the lesser degree (13). Remaining studies employed several procedural approaches, finally representing an impressive variety of designs.
4. *Instruments.* The most widely used standardized test was the Comprehensive Test of Basic Skills (14). A number of other equally reliable tests were used as well as several criterion-referenced measures (4).
5. *Size of sample.* There was a great variability in the number of students involved in studies. The range ran from as few as five to as

many as several hundred students. By and large, the sample sizes appeared to be significant in number.

6. *Grade levels*. The following frequency distribution is presented to indicate the scope of the studies; the first figure is the grade level and the second figure is for the number of studies: Kdg./3; 1/6; 2/9; 3/14; 4/13; 5/10; 6/13; 7/10; 8/14; 9/13; 10/12; 11/16; 12/11; and Adult/1.
7. *Statistical analysis*. Again, a variety of approaches were specified, e.g., univariate and multivariate analyses of variance, analysis of covariance, t-tests, F-ratios, significant levels (P), regression analyses, etc.
8. *Delimitations of the studies*. Several studies gave no delimitations, but, of those identified, the following points were noted with greatest frequency: problems relating to establishing control groups and experimental designs (15), problems relating to testing procedures (6), problems relating to procedures for implementing the CE program, e.g., the students did not receive a concentrated exposure (4). In addition, several studies (4) identified problems relating to the short time period covered by the project, e.g., the time required for proper implementation, the short intervention period, and the fact that basic skills take years to develop and/or modify.
9. *Career education treatment*. For the most part, the CE treatments described in the analysis description by Bhaerman reflected the overall approach which often is presented in the following sequence: beginning in the elementary school and continuing through college education—emphasizing the process of career development—including career *awareness*, career *exploration*, career *motivation*, career *decision making*, career *preparation*, and career *entry*.

   Over half of the studies (21) indicated the development of specific curriculum guides, units, learning modules, or lesson plans. The teaching strategies were often referred to as "the infusion process" in which curriculum units were integrated into career information. Staff development, in-service programs, and workshops of various sorts were specifically mentioned in a number of instances (18), as were the use of community resources, field trips, or site visits (10), and "hands-on" experiences (8).

   The range for program length was wide, but the majority of the studies appeared to be for one academic year.

This review of the very comprehensive and scholarly nature of the Bhaerman report is intended as part of the rationale for including the representative set of findings and conclusions which follow.

A National Institute of Education search turned up only two doctoral dissertations which related directly to career education and academic achievement. Feit[38] reported no statistically significant differences between experimental and control groups in levels of reading and math in the 4th and 5th grades. This dissertation was a rather limited field study which lacked proper control of the experimental situation. The other doctoral study, by Bryant,[39] reported statistically significant gains in the total test battery, vocabulary, language, mechanics, and expression—all favoring the experimental group. This researcher affirmed that the integration of career education concepts can have positive effects on cognitive growth.

Bagley attempted to determine whether one teacher's effectiveness would improve after adopting a career education-oriented teaching approach and concluded that math achievement had not significantly improved, but that greater achievement in reading was statistically significant at the .025 level.[40] A study conducted in a middle school setting indicated that the career education group improved more in terms of grade-level equivalence in reading than the non-career education sample; a .4 difference in reading and a .2 difference in math. These gains were considered modest, but consistent, by Gagliardi.[41] Another study, conducted with slow learners and disadvantaged youth, found that students in the 9th grade gained an average of 1.7 years through implementation of a career education program while 10th graders improved an average 1.3 years, using the same program. Lapinsky concluded that the program facilitated better adjustment to school and the improvement of basic skills.[42]

Six fairly similar unified school district studies disclosed generally favorable results for career education programs. Green and Hildebrandt[43] carried out one study which led them to conclude that there was considerable evidence to substantiate that experimental students would score significantly higher on standardized tests. Their findings, after recognizing some contamination problems with the control groups, showed the experimental groups exceeding in first grade reading, and in both math and reading at the 2nd and 4th grade levels. Two similar studies, conducted in New York, and Delaware,[44] revealed no significant achievement gains as both groups (experimental and control) made

typical improvements between pre- and post-tests. Morrison's study in Indiana[45] concentrated on the creation of teacher awareness, the students did not receive a concentrated exposure to career education, and growth gains in language and reading skills ranged from .6 to 3.3 years, averaging 1.5 years per student. A study in Kansas[46] over a period of several years presents considerably more data. After the second year evaluation substantial growth was reported in all nine academic areas tested in grades three and six, but statistically significant differences between control and experimental groups were not existent. Third year evaluations were similar in findings, again substantial gains were made by both groups of students. Huffman has recently advised those interested that, while significant differences were not shown, continued growth in achievement was impressive. He further stated that the career education program neither enhanced nor inhibited the traditional learning process while including many activities that promote awareness, exploration, and decision-making skills. The sixth district-wide study, in Philadelphia,[47] favored career education activities in reading and math. In eight months the experimental group of reading interns gained five academic months in comparison to negligible gains for control group interns; in math, four academic months gains were shown for the experimental group interns with no improvement for control group students.

County school systems have conducted several studies over the past few years of career education's growth. From a study conducted in Lincoln County, West Virginia, Olson[48] supports the conclusion that utilizing experiential activities to illustrate abstract symbols and concepts related to career education goals is an effective method of increasing academic achievement by reporting, adjusted post-test means for the experimental group were 11 percent higher on language achievement and 24.5 percent higher on mathematics achievement. In an effort to determine whether integrating career education would impede growth in academic competence, Simpson [49] found that 3rd, 4th, and 5th grade students did not experience interference. Simpson extrapolates from the investigation to observe that the integrated career education approach not only provides for essential basic skills development at the same level of traditional teaching, it contributes to career development knowledge that is not normally taught.

A Dade County, Florida, study[50] reported that the acquisition of reading skills was somewhat higher for all students in the Career education group at the 8th and 9th grade levels. Conclusions of this study,

utilizing state-wide assessment instruments, stated that related achievement in the basic skills will likely surpass both state and national norms for many schools. A Prince George's County, Maryland, project[51] tested selected classes in grades 1, 3, 6, 7, 9, 11, and 12, combining individual classes across schools within grade levels to form experimental and control groups. With the exception of 6th grade reading and senior high language usage and social studies, the experimental groups scored significantly higher.

Two annual reports from a research project in Union County, North Carolina,[52] cite positive results for career education efforts. Sixth grade reading achievement was significantly greater at the level of a .05 difference, but not significant in artithmetic, this during the first year. In the second year the experimental students' gains were significant on two subtests in language and the total test battery. The Kentucky study in Region XII[53] was also reported on two occasions, 1974 and 1976. Considering approximately 1,300 students in grades 4, 8, and 11, Omvig concluded in the 1974 report that the academic achievement levels did not vary to any significant extent in favor of or unfavorable to career education efforts. The later study, involving approximately 957 students, suggested that overall the career education students tended to demonstrate higher achievement scores and that they especially outperformed non-career education students at the lower grade levels. Omvig felt that significant gains in the lower grades was partly attributable to greater use of career education materials at those levels.

Kansas and Minnesota are the two states which have turned in research reports concerning basic academic skills and career education. Smith conducted the Minnesota study, a summative evaluation of seven projects involving 10,900 students, grades 1-9, and assessed the career education impact on cognitive achievement as minimal: differences in student achievement were small and not always in favor of experimental groups; students in experimental groups tended to have slightly higher mean scores in grades 1-3 and 4-6. Explanations for the overall results of the Minnesota study remind one of problems that seem to be regularly associated with many studies in career education: (1) the possibility that the tests did not adequately sample the content emphasized by teachers in the exemplary projects, (2) teachers in the control schools had perhaps been teaching career education concepts, (3) inadequate amount of instructional emphasis and time, and (4) one year of career education instruction may be insufficient.[54] In Kansas, Schultz tested 369 seventh

and eighth grade students for achievement gains in math, science, English, and social studies. There was no significant difference in math or English, but the career education population did significantly better in seventh grade social studies and in seventh and eighth grade science. Schultz reported that in a statistical, as well as an academic sense, career education proved to be a success.[55]

Partners in Career Education in Texas concluded a two-phase study; the first effort involved 348 students in four schools and considered language arts and social studies achievement, the second effort used two schools and 272 students, and reviewed only mathematics achievement.[56]

> In Study #1, statistically significant results were found in substests dealing with reading-vocabulary, language-mechanics and expression, and study skills-reference and also on total reading scores, total language scores and on the total test battery. While the report noted that the studies were not conducted according to rigorous research designed criteria, the results re-affirmed the belief that career education can make a difference. Student achievement was attributable to support provided and special efforts of the teachers.
>
> In Study #2, the report specified that even though pre-test scores indicated that the groups were not accurately matched, the pre- and post-test mean score differences recorded for the experimental group were higher and a statistically significant difference existed in one subtest: math application (.01). The report concluded that the methodology for infusion should help allay fears regarding implementation, for the students progressed in every academic area tested at a rate equal to or greater than those not utilizing career education.

Four FY 75 Office of Career Education Projects provide additional data: (1) Smith established that a career orientation course designed for bilingual adults enhanced reading comprehension to a significant degree in approximately one half the instructional time required to produce a similar improvement through the regular high school diploma/ equivalency approach. The researcher concluded that adults in the bilingual program gained basic skills faster when occupationally relevant content was integrated with skill development.[57] (2) Testing 144 students in grades kindergarten, 2, 4, 9, and 10 for reading and math achievement gains, Minnis found insignificant differences between control and

experimental groups.[58] (3) Streit, in Newark, New Jersey, involved 846 students in grades 2-8 to study the effects of a career education program on reading and math achievement. There was no overall significant improvement on reading test scores throughout the grades and only varied improvement in math scores, although, fifth graders indicated significant improvement in both reading and math.[59] (4) 858 students were involved in the fourth study, wherein Brownlee concluded that reading and math gains were negligible, but pointed out that the period for student instruction was only twelve weeks in duration. Kindergarten through senior high school students were included in the evaluation.[60]

The detailed and comprehensive Bhaerman report offers a few conclusions which ought to accompany this review of the descriptive analysis:[61]

1. It would not be accurate to say that all of the projects were full-fledged experimental designs or that the evidence leaned overwhelmingly toward the experimental groups. The researchers themselves pointed out a number of delimitations in their studies and the Data Charts (used in the analysis report) disclose that the experimental groups did not consistently outperform their counterparts. *Yet, the overall data is reassuring. Looking not at one isolated report, but viewing the total picture, one can observe the situation as quite favorable. There are some who have felt that CE would hurt academic achievement. That is certainly not an interpretation this analyst would draw from the data.* In my opinion, the data should be enough to whet the appetite of CE supporters and critics alike.
2. Of the 38 studies, the findings were generally supportive of CE in certain areas: 19 studies reported data which indicated that either reading and or mathematics was impacted at either an .05, .01, or .001 level of significance or, in the case of the R and D laboratories' studies, which indicated that the treatment students maintained their growth in the basic academic skills. Sixteen studies were moderately supportive in that they reported data which either indicated reading and/or math grade equivalent score improvement, achievement gains for both experimental and control groups, or varied impact, i.e., CE neither enhanced nor inhibited growth in these areas. Three studies reported data which indicated either negligible or minimal impact. *The overall observation I would*

make is that academic achievement generally was either impacted positively or, when it was not, it did not interfere with that goal. In a word (two actually), I believe that the studies can be interpreted with *guarded optimism. CE surely has nothing to be ashamed of when it comes to basic academic achievement.*

3. In some ways it is difficult to summarize or be "analytical" with the data since they are so comprehensive and since the studies varied so greatly. Nevertheless, *I believe the general directions are positive and the overall tendencies are clear . . . .*

The literature which explains career education consistently excludes the notion that students who are involved in a career education program should experience achievement gains in the basic academic skills with significantly greater success than through conventional curricula. Explanations are also consistent to promise that basic skill development will not suffer when career education is implemeneted. The Bhaerman analysis of studies complements the promise.

A final note from the Bhaerman study refers to the research conducted by Omvig[62] who asked the teachers involved in career education, "What was the most rewarding experience you encountered in working with your students and CE?" Seven responses were given, in this order:

- Student enthusiasm, enjoyment, and interest
- Class activities
- Increased academic performance and relevance
- Increased career awareness and performance
- Completed student projects
- Progress of slow learners and underprivileged students
- Community cooperation.

He continued:

> The teachers felt that career education established a relevance to the classroom that had been lost, and that because the students can see how academic subjects will be utilized later in life they demonstrated a greater eagerness and an increased inquiry into the world of academia. Teacher after teacher referred to "the increased interest and attendance," to the fact that the students were now "given reasons for going to school and for setting goals." Their concern for school seemed to have resulted oftentimes in an improved performance level by the students. One teacher said her most rewarding experience resulted

from the students' improvement in grades and their changed attitude toward work, and another teacher saw this year as being "the most rewarding in all her years of teaching." She said, "the children were happy, absentees were at an all time low, and achievement at the end of the year was higher than all my teaching years." This improvement in the students' academic performance did not, however, stunt or preclude their growth and development in the areas of self-confidence and self-concept, that should result from a career education program.

SUMMARY

Career education is caught up in a state of becoming—a typical condition for a budding, relatively new movement in education which appears to have survived the more tentative state of faddism. This review of research has accentuated the growing, developing nature of career education and has probably previewed more difficulties to be overcome, regarding evaluation and research, than recognizing obstacles which have been overcome. But, as Hoyt reflects:

> In spite of these difficulties, systematic and conscientious attempts at evaluation of career education are currently being conducted in communities in all geographic sections of the United States. . . . The need for careful attention to the problems and potential inherent in evaluating career education efforts is obvious. The need is great at the present time and it is sure to increase in the future.[63]

The prevailing professional attitude concerning the future of career education, reported by teachers, practitioners, administrators, supervisors, and learners, is refreshing and positive. The literature which discusses career education, from hard research to casual observations, conveys an optimistic feeling for this still vaguely defined curriculum newcomer. This is an uncommon situation in the cynical ethos of today. The most typical admission about career education is that there is much to prove, but evaluation message harbingers are encouraged and vigorously involved with continuing the evaluation process. This writer has come to several conclusions about career education:

1. A relatively new phenomenon, career education's potential and achievements are steadily becoming clearer to a rapidly growing proportion of professional education's population.
2. Career education is a thoughtfully planned response to critics of formal education, with much of its rationale directly responsive to common criticisms.

3. The U. S. Office of Career Education offers the following generic definition for career education: ". . . the totality of experiences through which one learns about and prepares to engage in work as part of her or his way of living."[64]
4. Ten learner outcomes for career education have been established as primary goals. The desired outcomes are carefully infused, woven, or integrated into all aspects of the curriculum.
5. The successful achievement of goals valued by career education is influenced by the present state of American education. Career educationists have outlined suggestions for extensive modification of American education.
6. Criticism of career education has been encouraged and endorsed by proponents of the movement. Generally, criticism has been helpful to those interested in the career education effort.
7. Because of the nature of many career education goals, evaluation is difficult and progress toward solving many of the difficulties is slow. Evaluation problems have been clarified.
8. The hard research, to date, has concentrated on career education's effect regarding basic academic skills achievement. Evaluating other CE goals has been less successful but is underway.
9. In general, data report that career education contributes positively to basic skill performance, especially that career education infusion has not been a distracting influence.
10. Added motivation for learning and improvement of the perceived relevance of schooling were often mentioned by teachers and students who participated in career education programs.

THE NEAR FUTURE

The remarkable growth of career education over such a relatively short period of time (considering how slowly significant changes come about in education) must now be very carefully monitored. Hoyt has synthesized the continuously growing body of assessment information and has suggested the following ideas as the "next steps for career education".[65]

1. *Improving comprehensiveness of the CE effort.* There is a need for more building-wide and system-wide programs, as opposed to the current isolated, individual teacher effort.
2. *Evaluating the effectiveness of CE.* More systematic evaluation must be implemented, including longitudinal studies, better suited instruments, and traditional evaluative criteria.

3. *Increasing effectiveness of use of community resources.* True collaboration among individuals within the families, industries, labor institutions, businesses, and schools is necessary at the local, state, and national levels.
4. *Labor unions, low income persons, and CE.* Basic to the promises of career education is a reward system for low income persons and organized labor; the promises must be revitalized.
5. *Improving effectiveness of CE for special portions of the population.* Additional interest and concern must be directed toward women, minorities, the physically and mentally handicapped, and gifted/talented individuals.
6. *Increasing the r & d effort in CE.* Both the variety and intensity of research and development must be increased.
7. *Retention of the word "work" as the bedrock of the CE concept.* Work emphasizes the human need of all people, to do—to accomplish—to achieve.
8. *Clarifying and emphasizing the changing relationships between education and work.* Education/work relationships will continue to change; thus, adaptability skills, reduction of sexism and racism, productive use of leisure time—all within the context of changing family relationships—deserve emphasis.
9. *Emphasizing the multiple goals of American education.* As meaningfulness and purpose for education are resolved, preparation for the world of work—one goal among goals—must not be lost in the shuffle.
10. *Emphasizing educational reform through application of a concept.* Operating as a concept to be integrated with all educational programs, CE can continue to prompt reform.
11. *Continued involvement as a national, rather than as a federal effort.* To accentuate the collaborative effort CE must look first to local programs, next to state-wide plans, and last to federally sponsored projects/funding.
12. *Emphasizing a commonality of purpose along with diversity of teaching/learning opportunities.* The basic thrust of CE's emphases is entirely complementary to a variety of productive teaching and learning alternatives—this direction must be preserved.

These ideas are communicated consistently in the research literature. The review of what research says about career education implies, to this writer, a healthy sense of direction for the near future.

FOOTNOTES

[1]A Policy Paper of the U. S. Office of Education, Kenneth B. Hoyt, Director. "An Introduction to Career Education." Washington, D.C.: U. S. Department of Health, Education and Welfare, 1975. pp. 1-2.

[2]Marland, S. P. *Career Education*. Speech presented at the thirty-third session of the International Conference on Education, Geneva, Switzerland, September 1971.

[3]*Position Paper on Career Education*, Adopted by the National Association of State Directors of Vocational Education at convention in Las Vegas, Nevada, September 1971.

[4]Evans, Rupert N. "Career Education and Vocational Education: Similarities and Contrasts." *Monographs on Career Education*. U. S. Department of Health, Education and Welfare, 1975. p. 2.

[5]A Policy Paper of the U. S. Office of Education, Hoyt, *op. cit.*

[6]*Ibid.*, pp. 3-4.

[7]*Ibid.*

[8]Hoyt, Kenneth B. "Perspectives on the Problem of Evaluation in Career Education." *Monographs on Career Education*. Washington, D.C.: U.S. Department of Health, Education, and Welfare, 1976, pp. 30-8.

[9]A Policy Paper of the U. S. Office of Education, Hoyt, *op. cit.*

[10]*Ibid.*, p. 13.

[11]*Ibid.*, pp. 12-13.

[12]Kazanas, H. C. "Editor's Notes." *Journal of Career Education* 1: (No. 2) Fall 1974.

[13]_____. "Editor's Notes." *Journal of Career Education* 1: (No. 3) Fall 1975.

[14]Morris, Van Cleve. "The Way We Work: Some Notes on Career Education." *Journal of Career Education* 1: (No. 3) pp. 4-9; Winter 1975.

[15]Newsome, George L. "Career Education: Its Meaning and Rationale." *Journal of Career Education* 1: (No. 3) 9-13; Winter 1975.

[16]Smith, Glenn. "Career Education in Perspective." *Journal of Career Education* 1: (No. 3) 20-23; Winter 1975.

[17]Smith, P. L. "Career Education As a Justification for Schooling." Journal of Career Education 1: (No. 3) 13-19; Winter 1975.

[18]Greene, Maxine. "Work, Play, and Critique: An Approach to Career Eduation." *Journal of Career Education* 1: (No. 3) 23-27; Winter 1975.

[19]Neff, Frederick C. "Education Has Many Mansions." *Journal of Career Education* 1: (No. 3) 27-32; Winter 1975.

[20]Grubb, W. Norton, and Lazerson, Marvin. "Rally 'Round the Workplace: Continuities and Fallacies in Career Education." *Harvard Educational Review* 45: (No. 4) 452-74; November 1975.

[21]Hoyt, Kenneth B. "Setting the Record Straight: A Reply to Grubb and Lazerson." *Monographs on Career Education; Refining the Career Education Concept*. Washington, D. C.: U. S. Department of Health, Education and Welfare, 1976. p. 29.

[22]"Perspectives on the Problem of Evaluation in Career Education," Hoyt, *op. cit.*, p. 38.

[23]Raymond, Bill, and Raymond, Carolyn. "Evaluation Concerns From the Local Practitioner's Point of View." *Journal of Career Education* 2: (No. 3) 4-23; Winter 1976.

[24]Dataa, Lois-Ellin. "Does It Work When It Has Been Tried? And Half Full or Half Empty?" *J. of Career Education* 2: (No. 3) 46; Winter 1976.

[25]McLaughlin, M. W. "Evaluating Innovations: The Case For A New Paradigm." *Journal of Career Education* 2: (No. 3) 90; Winter 1976.

[26]Newell, Terry. "Evaluating Career Education: A Plan For Possible Results." *Journal of Career Education* 2: (No. 3) 109; Winter 1976.

[27]*Ibid.*, pp. 115-17.

[28]Bhaerman, Robert D. "Career Education and Basic Academic Achievement—A Descriptive Analysis of the Research." Monograph. Washington, D. C.: U. S. Department of Health, Education and Welfare, Office of Education, May 1977.

[29]*Ibid.*, p. 9.

[30]Bryant, Rita S. "The Efficacy of Career Education: Academic Achievement." *The Efficacy of Career Education*. Washington, D. C.: National Advisory Council for Career Education, 1976.

[31]Worthington, Robert M. *Review and Systhesis of Research Concerning Career Education in Doctoral Dissertations of Fellows Supported by the Education Professions Development Act, Section 552, 1972-1975. Prepared for the National Advisory Council for Career Education. Princeton, N. J.: Career Development Associates, Inc., October 1975.*

[32]*Evaluation of Vocational Exemplary Projects (Part D) and Development for a Guide for Evaluating Career Education: Final Report.* Washington, D. C.: Development Associates, Inc., October 1975.

[33]Bhaerman, *op. cit.*, p. 11-12.

[34]High, Sidney C. "Career Education: What Proof Do We Have That It Works?" Paper presented at the Commissioner's National Conference on Career Education, Houston, Texas, November 8, 1976.

[35]*Office of Career Education FY 1975 Career Education: Some Highlights*. Draft prepared by the National Center for Career Education, Missoula, Montana, 1976.
[36]Bhaerman, *op. cit.*, pp. 17-19.
[37]*Ibid.*, pp. 20-25.
[38]Tiedeman, David V., and others. *Key Resources in Career Education: An Annotated Guide*. Washington, D. C.: U. S. Department of Health, Education and Welfare, National Institute of Education, April 1976.
[39]*Ibid.*
[40]Bhaerman, *op. cit.*, p. 26.
[41]*Ibid.*, pp. 26-7.
[42]*Ibid.*, p. 27.
[43]*Ibid.*, p. 27
[44]*Ibid.*, p. 28
[45]*Ibid.*, p. 28
[46]*Ibid.*, pp. 29-30.
[47]*Ibid.*, p. 30.
[48]*Ibid.*, p. 30-31.
[49]*Ibid.*, p. 31.
[50]*Ibid.*, p. 32.
[51]*Ibid.*, pp. 32-33.
[52]*Ibid.*, p. 33.
[53]*Ibid.*, pp. 34-35.
[54]*Ibid.*, pp. 35-36.
[55]*Ibid.*, p. 36.
[56]*Ibid.*, p. 37.
[57]*Ibid.*, pp. 37-38.
[58]*Ibid.*, p. 38.
[59]*Ibid.*, p. 38.
[60]*Ibid.*, p. 39.
[61]*Ibid.*, p. 46-47.
[62]*Ibid.*, p. 57.
[63]"Perspectives on the Problem of Evaluation in Career Education," Hoyt, *op. cit., pp. 38-39*.
[64]A Policy Paper of the U. S. Office of Education, Hoyt, *op. cit.*, pp. 3-4.
[65]Hoyt, Kenneth B. "Next Steps for Career Education." *Monographs on Career Education: Refining the Career Education Concept*. Washington, D. C.: U. S. Department of Health, Education and Welfare, 1976. pp. 38-41. Paraphrase.